

40. The apparatus of claim 39 wherein said processor evaluates fuzzy inference rules relating to the rate of change of said respiratory effort signal.

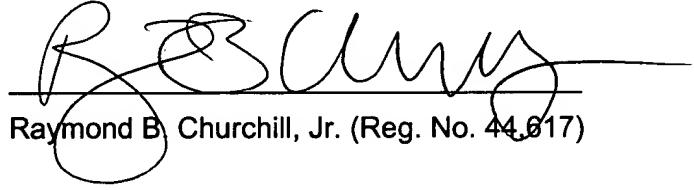
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REMARKS

No new matter is added to the application as a result of the foregoing amendments. Early and favorable examination is therefore requested.

Respectfully submitted,
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APPENDIX A
(marked-up version of claim amendments)

2. (AMENDED) The method of claim 1 wherein said respiratory effort sensor is selected from a group of effort sensors comprisingincluding:

- (a) a suprasternal notch sensor;
- (b) an esophageal pressure effort sensor; and
- (c) an electromyograph.

16. (AMENDED) The method of claim 6 wherein said fuzzy inference rules include at least one rule selected from a group of rules comprisingincluding:

- (a) If the airflow is zero and increasing fast, then the phase is about 0 revolutions;
- (b) If the airflow is large positive and steady, then the phase is about 0.25 revolutions;
- (c) If the airflow is zero and falling fast, then the phase is about 0.5 revolutions;
- (d) If the airflow is large negative and steady, then the phase is about 0.75 revolutions;
- (e) If the airflow is zero and steady and the 5-second low-pass filtered absolute value of the respiratory airflow is large, then the phase is about 0.9 revolutions;
- (f) If the airflow is positive and the phase is expiratory, then the phase is about 0.1 revolutions;
- (g) If the airflow is negative and the phase is inspiratory, then the phase is about 0.6 revolutions;
- (h) If the 5-second low-pass filtered absolute value of the respiratory airflow is small, then the phase in the respiratory cycle is increasing at a fixed rate equal to the patient's expected respiratory rate; and

(i) If the 5-second low-pass filtered absolute value of the respiratory airflow is large, then the phase in the respiratory cycle is increasing at a steady rate equal to the existing rate of change of phase, low-pass filtered with a time constant of 20 seconds.

18. (AMENDED) The apparatus of claim 17 wherein said at least one sensor is an effort sensor from a group of effort sensors comprisingincluding:

- (a) a suprasternal notch sensor;
- (b) an esophageal pressure effort sensor; and
- (c) an electromyograph.

32. (AMENDED) The apparatus of claim 22 wherein said fuzzy inference rules include at least one rule selected from a group of rules comprisingincluding:

- (a) If the airflow is zero and increasing fast, then the phase is about 0 revolutions;
- (b) If the airflow is large positive and steady, then the phase is about 0.25 revolutions;
- (c) If the airflow is zero and falling fast, then the phase is about 0.5 revolutions;
- (d) If the airflow is large negative and steady, then the phase is about 0.75 revolutions;
- (e) If the airflow is zero and steady and the 5-second low-pass filtered absolute value of the respiratory airflow is large, then the phase is about 0.9 revolutions;
- (f) If the airflow is positive and the phase is expiratory, then the phase is about 0.1 revolutions;
- (g) If the airflow is negative and the phase is inspiratory, then the phase is about 0.6 revolutions;
- (h) If the 5-second low-pass filtered absolute value of the respiratory airflow is small, then the phase in the respiratory cycle is increasing at a fixed rate equal to the patient's expected respiratory rate; and

(i) If the 5-second low-pass filtered absolute value of the respiratory airflow is large, then the phase in the respiratory cycle is increasing at a steady rate equal to the existing rate of change of phase, low-pass filtered with a time constant of 20 seconds.

34. (AMENDED) The method of claim 33 wherein said respiratory effort sensor is selected from a group of effort sensors comprisingincluding:

- (a) a suprasternal notch sensor;
- (b) an esophageal pressure effort sensor; and
- (c) an electromyograph.

38. (AMENDED) The apparatus of claim 37 wherein said at least one sensor is an effort sensor from a group of effort sensors comprisingincluding:

- (a) a suprasternal notch sensor;
- (b) an esophageal pressure effort sensor; and
- (c) an electromyograph.